

TITLE OF THE INVENTION

DIGITAL BROADCAST RECEIVING DEVICE AND DIGITAL BROADCAST
RECEIVING METHOD

5 BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a digital broadcast receiving device and a digital broadcast receiving method in which a digital broadcast signal including a picture of high-definition television (hereinafter, called HDTV) is received and the HDTV picture is decoded.

Description of Related Art

Fig. 4 is a block diagram showing the configuration of a conventional digital broadcast receiving device disclosed in Published Unexamined Japanese Patent Application No. H11-112370 (1999). In Fig. 4, 1 indicates a connector inserted into a slot of a personal computer (not shown). 2 indicates an antenna. 3 indicates a tuner for receiving a digital broadcast signal including an HDTV picture through the antenna 2. 4 indicates a decoding circuit for decoding the HDTV picture of the digital broadcast signal received in the tuner 3. 5 indicates an output circuit for outputting the HDTV picture decoded in the decoding circuit 4 as audio and visual data. 6 indicates a storing circuit for storing the HDTV picture output from the output circuit 5. 7 indicates a control circuit for controlling the antenna 2, the tuner 3, the decoding circuit 4, the output circuit 5 and the storing circuit 6 and controlling the storing circuit 6 to output the HDTV picture to a peripheral component interconnect (PCI) bus

(not shown) of the personal computer. The conventional digital broadcast receiving device is assembled on a board.

Next, an operation of the conventional digital broadcast receiving device will be described below.

- 5 When the conventional digital broadcast receiving device assembled on a board is inserted into a slot of a personal computer, a digital broadcast signal including an HDTV picture is received, the HDTV picture of the digital broadcast signal is decoded and is output to the PCI bus
10 of the personal computer.

In detail, when the HDTV picture of the digital broadcast signal is received in the tuner 3 through the antenna 2, the HDTV picture is decoded in the decoding circuit 4, and the HDTV picture is stored in the storing circuit 6.

- 15 Thereafter, when an output request of a picture is sent from the personal computer and is received in the control circuit 7, the control circuit 7 controls the storing circuit 6 to output the HDTV picture to the connector 1, and the HDTV picture stored in the storing circuit 6 is
20 output to the PCI bus of the personal computer. Therefore, it is possible to display the HDTV picture of the digital broadcast signal in a display of the personal computer.

- However, because the HDTV picture has a large quantity of picture data, there is high probability that an overflow
25 occurs in the PCI bus due to the HDTV picture. Therefore, a problem has arisen that the HDTV picture transmitted through the PCI bus cannot be displayed in real time.

SUMMARY OF THE INVENTION

- 30 An object of the present invention is to provide, with

due consideration to the drawbacks of the conventional digital broadcast receiving device, a digital broadcast receiving device and a digital broadcast receiving method in which an HDTV picture of a digital broadcast signal is displayed in real time.

The object is achieved by the provision of a digital broadcast receiving device comprising receiving means, arranged in a personal computer, for receiving a high-definition television picture of a digital broadcast signal and decoding the high-definition television picture, and displaying means, arranged in the personal computer, for selecting either the high-definition television picture decoded by the receiving means or an output picture of the personal computer and displaying the selected high-definition television picture or the selected output picture on a display.

In the above configuration, the high-definition television picture of the digital broadcast signal is sent to a display of the personal computer without passing through a peripheral component interconnect bus and is displayed on the display. In this case, though a data quantity of the high-definition television picture is considerably larger than a normal picture conforming to NTSC (National Television System Committee) system or the like, because the high-definition television picture does not pass through the peripheral component interconnect bus corresponding to a low data transfer rate, the high-definition television picture can be displayed on the display in real time.

It is preferred that the receiving means is arranged on